METHOD AND APPARATUS FOR MAINTAINING PACKET ORDERING WITH ERROR RECOVERY AMONG MULTIPLE OUTSTANDING PACKETS BETWEEN TWO DEVICES

Abstract of the Disclosure

A data communication system (10) has a plurality of devices (12, 14, 17) which communicate by transmitting information packets having order tags which are processed by an input unit (60) and an output unit (30) in each device. A packet is sent from a transmitting device to a receiving device having an ordering tag wherein both devices are initially order synchronized by starting with the same ordering tag value. Packet transmissions are forced to occur in an order which follows a predetermined ordering of order values which the ordering tags can have. If the receiving device does not receive a packet having the correct order tag value or if a transmission error is detected, the receiving device tells the transmitting device to resend the packet. Any subsequent outstanding transmissions are discarded. Packet ordering and verification occurs at each device-to-device connection.